Appendix B. Lithologic-Description Database, Nevada Test Site and Vicinity, Nye County, Nevada

Lithologic-description data were compiled for nearly 1,300 holes drilled and mined at the NTS and vicinity. Appendix B data are available at URL: http://pubs.usgs.gov/ds/2007/297/.

Table B1. Description of Lithologic-Description Database column contents.

[**Abbreviations:** DOD, U.S. Department of Defense; DOE, U.S. Department of Energy; NTS, Nevada Test Site; NWIS, National Water Information System; USGS, U.S. Geological Survey; ft, foot; –, not applicable]

Column heading	Column code	Column explanation
USGS NTS sort order	–	Emplacement and exploratory holes typically are displayed together. Many sites also have multiple completion intervals within the same hole. Therefore, a sort order number is assigned to all USGS sites associated with DOE and/or DOD projects in Nevada. This field is modified as new sites are added.
USGS NTS unique number	–	Spatial (*X*-*Y*) coordinates are unavailable at some locations. Therefore, USGS site identification numbers cannot be established in the USGS NWIS database Sitefile for these sites. Because NWIS site identification numbers cannot be assigned to all sites, it is necessary to assign a unique site number to all USGS sites associated with USGS DOE/DOD projects in Nevada. Although the unique numbers were initially assigned in the same order as the USGS NTS sort order, new sites are assigned the next available sequential number.
NTS area	–	NTS Administrative Area number (see fig. 1). Entries are listed in **bold** type where sites are located in areas other than the hole name implies. For example, USGS hole name **UE-17c Eleana** is actually located in NTS area **04**.
USGS hole name	–	USGS hole name designation. Entries are listed in **bold** type where sites are located in areas other than the hole name implies.
Lithologic interval number	–	Sequence of lithologic interval.
Lithologic interval top (ft)	–	Depth to top of lithologic interval; in feet below land surface for boreholes and shafts; in feet from portal opening for tunnels and drifts.
Lithologic interval bottom (ft)	–	Depth to bottom of lithologic interval; in feet below land surface for boreholes and shafts; in feet from portal opening for tunnels and drifts.
Lithologic interval sequence number	–	Sequence of descriptions, when multiple descriptions are reported within a lithologic interval.
Sample or log type	–	Type of sample or log that lithologic description is based upon.
Sample or log type	Basket	–
Sample or log type	Bit	–
Sample or log type	Core	–
Sample or log type	Core and Cuttings	–
Sample or log type	Core and Geophysical log	–
Sample or log type	Core and Movie log	–
Sample or log type	Core and Sidewall	–
Sample or log type	Core, Sidewall, and Cuttings	–
Sample or log type	Cuttings	–
Sample or log type	Cuttings and Geophysical log	–

Table B1. Description of Lithologic-Description Database column contents.—Continued

[**Abbreviations:** DOD, U.S. Department of Defense; DOE, U.S. Department of Energy; NTS, Nevada Test Site; NWIS, National Water Information System; USGS, U.S. Geological Survey; ft, foot; –, not applicable]

Column heading	Column code	Column explanation
Sample or log type	Cuttings and Movie log	–
Sample or log type	Geophysical log	–
Sample or log type	Grab	–
Sample or log type	Movie log	–
Sample or log type	None	–
Sample or log type	Sidewall	–
Sample or log type	Sidewall & Cuttings	–
Sample or log type	Sidewall & Geophysical log	–
Sample or log type	Sidewall & Movie log	–
Sample or log type	Unknown	–
Lithologic description	–	Entire lithologic description verbatim. The intent is to offer the most comprehensive (usually the original) description available. Core and sidewall samples always take precedence over cuttings descriptions. Multiple descriptions exist for many holes. However, subsequent descriptions are abridged and important alteration and structural inferences are lost. Although stratigraphic units are frequently updated and lithologies are occasionally modified, original descriptions still take precedence because cuttings samples were interpreted with the aid of binocular microscopes and questionable core samples were interpreted from thin sections utilizing petrographic microscopes (and occasionally spectrographic analysis).
Photographic support	–	Merged columns (currently 10 assigned arbitrarily) contain photographs. Shaded column with red triangle in upper-right corner indicates photograph available. Hover cursor over shaded column and photograph is displayed.
USGS NWIS geologic unit	–	Geologic unit or aquifer name code stored in the Ground-Water Information System (GWSI) subsystem of the USGS NWIS Ingress database. For example: [110VLFL - Quaternary valley fill; 121AMTK - Tertiary Ammonia Tanks Member; 121RRMS - Tertiary Rainier Mesa Member; 122PBRS - Tertiary Paintbrush Tuff; 327ELEN - Pennsylvanian Eleana Formation; 331CNMN - Mississippian Chainman Shale; 344NEVD - Devonian Nevada Formation; 361EURK - Ordovician Eureka Quartzite; and 400SRLG - Precambrian Stirling Quartzite]. A complete list of codes is included in the nv_geo_unt worksheet in the nts_lth_dsc spreadsheet (appendix B).
USGS NWIS lithologic unit	–	Lithologic unit code stored in the GWSI database. For example: [ALVM - alluvium; CLAY - clay; DLMT - dolomite; GRVL - gravel; LMSN - limestone; QRTZ - quartzite; SAND - sand; SHLE - shale; and TUFF - tuff]. A complete list of codes is included in the lith_unt worksheet in the nts_lth_dsc spreadsheet (appendix B).
USGS NWIS contributing unit	–	Contributing unit code stored in the GWSI database.
USGS NWIS contributing unit	N	Contributes no water.
USGS NWIS contributing unit	P	Principal contributing aquifer (only one per site).
USGS NWIS contributing unit	Q	Aggregate of lithologic units.
USGS NWIS contributing unit	S	Secondary contributing aquifer.

Table B1. Description of Lithologic-Description Database column contents.—Continued

[**Abbreviations:** DOD, U.S. Department of Defense; DOE, U.S. Department of Energy; NTS, Nevada Test Site; NWIS, National Water Information System; USGS, U.S. Geological Survey; ft, foot; –, not applicable]

Column heading	Column code	Column explanation
USGS NWIS contributing unit	U	Unknown contribution.
Map unit symbol	–	A list of map unit symbols commonly used at the NTS and vicinity are provided. For example: [QTa - middle Pleistocene to late Tertiary alluvial deposits; Tac - Miocene Calico Hills Formation; Tbgr - Tertiary crystal-rich Grouse Canyon Tuff; Tcpk - Tertiary Rhyolite of Kearsarge; TnABCD - Tertiary Tunnel Formation, 4 Member, beds 4A, 4B, 4C, and 4D; Oaa - Ordovician Antelope Valley Limestone, Aysees Peak Member; and Dg - upper and middle Devonian Guilmette Formation]. A complete list of codes is included in the map_unt worksheet in the nts_lith_dsc spreadsheet (appendix B).
Lithologic group	–	A list of one-three character codes is provided to specify general rock types. For example: [Iim - igneous, intrusive, mafic; Sc - sedimentary, consolidated; and M - Metamorphic]. A complete list of codes is included in the lith_grp worksheet in the nts_lith_dsc spreadsheet (appendix B).
Lithologic description unit	–	A list of three-character codes and modifiers are provided to specify detailed descriptions or subdivisions of lithologic units. Codes are restricted to important features and added by significance (usually order listed). Modifier usage is also minimized because fields are parsed to construct graphical plots. One- to two-character codes are followed by one or two spaces to maintain the three-character length. For example: [air - air-fall/ash-fall tuff; ash - ash-flow tuff; bed - bedded tuff; dwt - densely welded tuff; fls - felsite; nwt - nonwelded tuff; lac - lacustrine deposits; pd - playa deposits; pum - pumice; and vtp - vitrophyre]. A complete list of codes is included in the lith_dsc worksheet in the nts_lth_dsc spreadsheet (appendix B).
Lithologic characteristics unit	–	A list of three-character codes and modifiers are provided to specify diagnostic features of lithologic units. Codes are restricted to important features and added by significance (usually order listed). Modifier usage is also minimized because fields are parsed to construct graphical plots. One- to two-character codes are followed by one or two spaces to maintain the three-character length. For example: [arz - argillaceous; chl - chloritic; dvt - devitrified; fct - fractured; hxt - holocrystalline; ind - indurated; mrd - mordenite; Ol - Olivine; slc - silicic; vit - vitric; and zeo - zeolitic]. A complete list of codes is included in the lith_chr worksheet in the nts_lth_dsc spreadsheet (appendix B).
Lithohydrologic unit	–	A list of codes is provided to specify general terms for aquifers or confining units. For example: [lcA - lower-carbonate aquifer; lclCU - lower-clastic confining unit; uclCU - upper-clastic confining unit; vA - volcanic aquifer; vCU - volcanic confining unit; and vfA - valley-fill aquifer]. A complete list of codes is included in the lith_hyd_unt worksheet in the nts_lth_dsc spreadsheet (appendix B).
Lithologic remarks	–	Comments pertaining to lithologic-interval descriptions. Currently used mostly to house stratigraphic/lithologic references included with written descriptions; these data are utilized as an aid for populating the USGS NWIS geologic unit, USGS NWIS lithologic unit, USGS NWIS contributing unit, Map unit symbol, Lithologic description unit, Lithologic characteristics unit, and Lithohydrologic unit columns.
USGS Open-File Report 97-139 order	–	Numerical order site is listed in USGS Open-File Report 97-139.
USGS Open-File Report 97-139 Hole ID	–	Hole name listed in USGS Open-File Report 97-139. Entries are listed in **bold** type where sites are located in areas other than the hole name implies.
Data source	–	Agency that reported lithologic-description data.
Data source	BN	Bechtel Nevada (BN).
Data source	DTRA	DOD, Defense Threat Reduction Agency (DTRA).
Data source	F&S	Fenix and Scisson, Inc. (F&S).
Data source	FSN	Fenix and Scisson of Nevada (FSN).
Data source	IT Corp.	International Technology Corporation (IT Corp., purchased by Shaw Group, Inc.).
Data source	LANL	Los Alamos National Laboratory (LANL).
Data source	LLNL	Lawrence Livermore National Laboratory (LLNL).
Data source	NSTec	National Security Technologies, LLC (NSTec).

Table B1. Description of Lithologic-Description Database column contents.—Continued

[**Abbreviations:** DOD, U.S. Department of Defense; DOE, U.S. Department of Energy; NTS, Nevada Test Site; NWIS, National Water Information System; USGS, U.S. Geological Survey; ft, foot; –, not applicable]

Column heading	Column code	Column explanation
Data source	RSN	Raytheon Services Nevada (RSN).
Data source	SNJV	Stoller-Navarro Joint Venture (SNJV).
Data source	USGS	U.S. Geological Survey (USGS).
Record type or description		Record description and/or document type.
Record type or description	BN/PF	Bechtel Nevada (BN) Project Files (PF).
Record type or description	DTRA/PF	DOD, Defense Threat Reduction Agency (DTRA) Project Files (PF).
Record type or description	F&S/PF	Fenix and Scisson, Inc. (F&S) Project Files (PF).
Record type or description	FSN/PF	Fenix and Scisson of Nevada (FSN) Project Files (PF).
Record type or description	IT Corp./PF	International Technology Corporation (IT Corp.) Project Files (PF).
Record type or description	LANL/PF	Los Alamos National Laboratory (LANL) Project Files (PF); referred to as "Blue Folders."
Record type or description	LLNL/PF	Lawrence Livermore National Laboratory (LLNL) Project Files (PF).
Record type or description	NSTec/PF	National Security Technologies, LLC. (NSTec) Project Files (PF).
Record type or description	RSN/PF	Raytheon Services Nevada (RSN) Project Files (PF).
Record type or description	SNJV/PF	Stoller-Navarro Joint Venture (SNJV) Project Files (PF).
Record type or description	USGS/PF	U.S. Geological Survey (USGS) Project Files (PF).
Report reference	–	Published report that contains lithologic-description data. A complete list of acronyms and abbreviations used in USGS and other reports is included in the usgs_rpt and nts_acr_abv worksheets in the nts_lth_dsc spreadsheet (appendix B). NOTE: [USGS Technical Letters are considered internal correspondence and are not available for public release unless the report has been assigned a USGS Open-File Report number. Technical Letters prepared under the USGS Hydrologic Resource Management Program (HRMP, formerly Hydrology/Radionuclide Migration Program) and assigned "blanket open-file status" are designated "USGS-474-number." Technical Letters prepared under the USGS Yucca Mountain Program (YMP) and assigned "blanket open-file status" are designated "USGS-1543-number." Furthermore, some reports prepared by the National Laboratories and the various DOE and DOD subcontractors also may be considered internal correspondence and not available for public release. Users interested in these reports must check with the source agency to determine availability.]
Investigators	–	Authors and/or investigators.
Record location	–	Physical location of lithologic-description record.
Hole type	–	Type of vertical or horizontal drilling or excavation.
Hole type	Borehole	Vertical surface location; includes wells and vertical test holes.
Hole type	Crater	Vertical surface location.
Hole type	Drift	Horizontal underground location; includes tunnels and horizontal test holes.
Hole type	Outcrop	Surface location.

Table B1. Description of Lithologic-Description Database column contents.—Continued

[**Abbreviations:** DOD, U.S. Department of Defense; DOE, U.S. Department of Energy; NTS, Nevada Test Site; NWIS, National Water Information System; USGS, U.S. Geological Survey; ft, foot; –, not applicable]

Column heading	Column code	Column explanation
Hole type	Shaft	Vertical surface location.
Hole type	Surface	Surface location.
Hole type	Trench	Horizontal surface location.
Hole type	Unknown	Hole type not known.
Tunnel or drift construction station	–	Construction station at collar location (portal opening), for tunnels and drifts (i.e. - 9+17 is 917 ft; 10+72,195' is a 195 ft hole at the 1,072 ft station; etc.).
Construction station remarks	–	Remarks concerning the portal opening (collar location), for tunnels and drifts (i.e. - In U-12e.14 main drift; Alcove; Face; Invert; Lft Rib; Rt Rib; etc.).
Nevada SPCS Easting NAD27	–	Nevada state plane coordinates (SPCS), Easting, central zone, in feet; North American Datum of 1927 (NAD27).
Nevada SPCS Northing NAD27	–	Nevada state plane coordinates (SPCS), Northing, central zone, in feet; North American Datum of 1927 (NAD27).
Altitude at portal opening NGVD29 (ft)	–	Altitude at the collar location of the portal opening, for tunnels and drifts; in feet above mean sea level; National Geodetic Vertical Datum of 1929 (NGVD29).
Bearing from portal opening (degrees)	–	Bearing from the portal opening, for tunnels and drifts; in degrees, minutes, and seconds or decimal degrees (i.e. - S0720958W is South, 72 degrees, 9 minutes, 58 seconds West; N0325529E is North, 32 degrees, 55 minutes, 29 seconds East; N052.75W is North 52 and three-quarter degrees West; etc.)
Inclination from portal opening (degrees)	–	Inclination from the portal opening, for tunnels and drifts; in degrees, minutes, and seconds or decimal degrees (i.e. - 0045825 is a hole 4 degrees, 58 minutes, 25 seconds above horizontal; 2700000 is a vertical hole below horizontal; 0900000 is a vertical hole above horizontal; 0000000 and 1800000 are horizontal holes; 0150000 and 1650000 are holes 15 degrees up (above horizontal); 3150000 and 2250000 are holes 45 degrees down (below horizontal); 356.5 is a hole 3 and one-half degrees below horizontal; 170.25 is 9 and three-quarter degrees above horizontal; etc.). Inclinations are linked to bearings, so values near horizontal for holes bearing north or east would be added to zero for holes inclined above horizontal and subtracted from 360 for holes below horizontal; conversely, values near horizontal for holes bearing south or west would be subtracted from 180 for holes inclined above horizontal and added to 180 for holes below horizontal.
Altitude of land surface NGVD29 (ft)	–	Altitude of land surface within a reasonable proximity of the site; in feet above mean sea level; National Geodetic Vertical Datum of 1929 (NGVD29). This is an average of the surrounding ground-surface elevation. If the original surface has been altered, estimate the altitude based on nearby unaltered terrain.
Altitude method	–	Method used to determine altitude of land surface.
Altitude method	A	Altimeter.
Altitude method	D	Differentially-corrected Global Positioning System (DGPS).
Altitude method	G	Global Positioning System (GPS).
Altitude method	L	Level or other surveying method.
Altitude method	M	Interpolated from topographic map [report accuracy as ± one-half the contour interval (or supplementary contour interval) specified on the quadrangle].
Altitude method	N	Interpolated from digital elevation model (DEM).
Altitude method	R	Reported.
Altitude method	U	Unknown.
Altitude accuracy	–	Altitude accuracy; in feet (decimal values for accuracies less than 1 ft).
Altitude accuracy	U	Unknown.
Site completion date	–	Date hole construction completed.
Hole depth (ft)	–	Hole depth; in feet below land surface for boreholes and shafts; in feet from portal opening for tunnels and drifts.

Table B1. Description of Lithologic-Description Database column contents.—Continued

[**Abbreviations:** DOD, U.S. Department of Defense; DOE, U.S. Department of Energy; NTS, Nevada Test Site; NWIS, National Water Information System; USGS, U.S. Geological Survey; ft, foot; –, not applicable]

Column heading	Column code	Column explanation
Redbook hole number	–	Redbook hole numbers are currently assigned to new holes completed at the NTS by National Security Technologies, LLC (NSTec). Entries are listed in **bold** type where sites are located in areas other than the hole name implies.
Redbook hole number	–	Redbook hole numbers listed in the Raytheon Services Nevada (RSN) Nevada Test Site Drilling and Mining Summary (last updated 12-31-90) and previously in the Fenix and Scisson of Nevada NTS Drilling and Mining Summary (last updated 06-30-89; formerly Fenix and Scisson, Inc.) were assigned according to the type of hole drilled or mined, site location (NTS area), and sequence code for the consecutive order in which the hole was drilled, mined, or recompleted. Emplacement holes for nuclear weapons tests begin with the letter U, followed by a dash (-), NTS area number (fig. 1), and sequence code (letters a-z, aa-az, ba-bz, …, za-zz). Exploratory holes follow the same naming convention as emplacement holes, but begin with the letters UE. Holes that begin with the letter U but were drilled or mined specifically to provide data that could not be collected from an emplacement hole follow the emplacement hole naming convention, but are assigned incremental letters or numbers, or both following the sequence code. The suffix letters indicate: [#, satellite hole; CH, cable hole; Ex. or Expl., exploratory hole; HTH, hydrologic test hole; Inst., instrument hole; ITS, integrated test system; PPS, pre-postshot hole; PS, post-shot hole; RNM, radionuclide migration hole; RWMS, radioactive waste management site; and S, substitute hole]. There are numerous exceptions to the standard naming convention. The prefix letters indicate: [HTH, hydrologic test hole; J, Jackass Flat; and RNM, radionuclide migration]. Numbers and letters following the dash in the exceptions represent sequence of site drilling or mining, not NTS location. Hole type also is commonly listed after the hole designation. For example: [Access Shaft; Cable Hole; Expl. Hole; Instrument; LOS (Line Of Sight) Drift; Sidetrack; Reentry Mining; Tunnel; Vent Hole; and Zero Station].
Redbook hole number	–	USGS DOE project-related holes in Central Nevada follow a similar naming convention. However emplacement holes begin with the letters UC and exploratory holes begin with the letters UCE.
Redbook hole number	–	USGS Yucca Mountain Project (YMP) holes at the NTS follow the exploratory hole naming convention. Offsite YMP holes begin with the letters USW to indicate underground southern Nevada waste. The suffix letters indicate: [G, geologic hole; GA, geologic angle hole; GU, geologic unsaturated zone hole; H, hydrologic hole; MX, missile-experimental hole (drilled for U.S. Air Force [USAF] MX Missile-Siting Investigation); N, neutron hole; p, Paleozoic or pre-Tertiary hole; RF, repository facility hole; UZ, unsaturated zone hole; V, volcanic hole; VSE, vertical shelter exploratory hole (drilled for USAF MX Missile-Siting Investigation); and WT, water table hole].
Redbook hole number	–	Environmental Restoration Program (ERP) holes at the NTS begin with the letters ER, followed by a dash, NTS area number (fig. 1), a dash, and an incremental sequence number. The NTS area number is replaced by suffix letters for ERP holes located offsite. The suffix letters indicate: [EC, area at the USAF Nellis Air Force Base Range (NAFBR) where the holes were drilled; and OV, Oasis Valley].

Table B1. Description of Lithologic-Description Database column contents.—Continued

[**Abbreviations:** DOD, U.S. Department of Defense; DOE, U.S. Department of Energy; NTS, Nevada Test Site; NWIS, National Water Information System; USGS, U.S. Geological Survey; ft, foot; –, not applicable]

Column heading	Column code	Column explanation
Redbook hole number	–	LLNL Containment Program Data Base hole names are 10 characters in length. The first character identifies the site location of the hole: [U, Nevada Test Site; C, Central Nevada Test Site; A, Amchitka Test Site; and O, offsite hole]. The second and third characters identify either the right-justified Area number for an NTS hole, or the two-letter state abbreviation (U.S. Postal Service abbreviation) for an offsite hole: [U 2, NTS hole in Area 2; U20, NTS hole in Area 20; and ONV, offsite hole in Nevada]. The fourth character is reserved for specially defined areas at the NTS: [U 9I, NTS hole in Area 9, in the ITS area]. Characters 5-10 identify the hole complex or group of holes (of different types) related to the emplacement hole. This may include letters or numbers. For an NTS hole, the fifth and sixth characters are alphabetical descriptors and usually complete the common hole name for an emplacement hole: [U 2 c, NTS hole in Area 2; U 2 ca, NTS hole in Area 2, drilled after U 2 c; and U 2 cb, NTS hole in Area 2, drilled after U 2 ca]. For offsite holes, these characters will indicate county name, on a limited space basis: [ONV NYE, offsite hole in Nevada, Nye County; and OCO RBL, offsite hole in Colorado, Rio Blanco County]. These characters also may indicate project identifiers: [U 1 RNM, NTS hole in Area 1, Radionuclide Migration Program; and U 12 ER, NTS hole in Area 12, Environmental Restoration Program]. LLNL Containment Program Data Base hole types are: [A, access; B, rad chem; C, core; D, Waterways experiment Station (WES); E, exploratory; F, tunnel; G, auger, crack investigation; H, emplacement (H A or H B is a centerpunch emplacement hole); I, instrument; J, PINEX or LOS; K, escape; L, cable; M, hydrologic test hole; N, tracer and sample, foil recovery; O, tunnel dynamics; P, post test; Q, seismic, high explosive; R, re-entry (R-S is a reentry shaft); S, shaft (W/S is a whipstock hole); T, test hole (many types); U, post-test hole, in crater; V, vent; W, water supply; X, pre-post test; Y, abandoned; Z, waste storage; 1, rack assembly; 2, dump; 3, oil well; 4, gas well; 5, geothermal well; and ?, unknown hole type]. Multiple uses of a hole are indicated by consecutively adding hole type abbreviations in this field. If the hole is closely associated with another hole, or if it also is known by another name, this is indicated by /____. For example, the hole name: [U 2 bt HE/U2BU H] means that U 2 bt was initially an emplacement hole that became an exploratory hole. U 2 bt also is an exploratory hole for the nearby emplacement hole U 2 bu.
Former or other hole name	–	Former or other names utilized for holes.
NWIS agency code	USGS	USGS NWIS code to indicate the reporting agency. All sites currently populated in the lithologic-description database are assigned as USGS.
NWIS site identification number	–	USGS NWIS site identification number.
NWIS site identification number	–	Downstream order numbers are assigned for surface-water, on-stream, sites. The first two digits of the station number indicate the part or major drainage system formerly used for USGS Water-Supply Papers entitled “Surface Water Supply of the United States” and the remaining digits indicate the downstream order within the part. This site number is left-justified. Although downstream identification numbers have been converted to a variable length format, with up to 14 digits available, 8 digits are normally assigned.
NWIS site identification number	–	Numbering system for sites on open water bodies, off-channel sites, wells, springs, etc., is based on the grid system of latitude and longitude. Although this number is initially determined from the best known latitude/longitude location, plus a 2-digit sequence number for the number of sites located at those coordinates, it retains no locational relevance once the site is created in the database. The overall designation consists of 15 digits. The values of latitude and longitude are updated as better coordinates become available, and should always be used for locating sites or plotting locations.

Table B1. Description of Lithologic-Description Database column contents.—Continued

[**Abbreviations:** DOD, U.S. Department of Defense; DOE, U.S. Department of Energy; NTS, Nevada Test Site; NWIS, National Water Information System; USGS, U.S. Geological Survey; ft, foot; –, not applicable]

Column heading	Column code	Column explanation
Latitude NAD27	–	Latitude; in degrees, minutes, and seconds [two digits are available for decimal seconds]; North American Datum of 1927 (NAD27).
Longitude NAD27	–	Longitude; in degrees, minutes, and seconds [two digits are available for decimal seconds]; North American Datum of 1927 (NAD27).
Location method	–	Method used to determine latitude and longitude coordinates.
Location method	C	Calculated from land net.
Location method	D	Differentially-corrected Global Positioning System (DGPS).
Location method	G	Global positioning system (GPS), uncorrected [Standard Positioning Service (SPS) and Precise Positioning Service (PPS)].
Location method	L	Long-range navigation (Loran) system.
Location method	M	Interpolated from map.
Location method	N	Interpolated from digital map.
Location method	R	Reported.
Location method	S	Transit, theodolite, or other surveying method.
Location method	U	Unknown.
Location accuracy	--	Accuracy of latitude and longitude coordinates.
Location accuracy	H	Hundredth second.
Location accuracy	1	Tenth second.
Location accuracy	5	Half second.
Location accuracy	S	Second.
Location accuracy	R	Three seconds.
Location accuracy	F	Five seconds.
Location accuracy	T	Ten seconds.
Location accuracy	M	Minute.
Location accuracy	U	Unknown.
Decimal latitude NAD83	–	Latitude, in decimal degrees [automatically generated by the NWIS system software]; North American Datum of 1983 (NAD83).
Decimal longitude NAD83	–	Longitude, in decimal degrees [automatically generated by NWIS system software]; North American Datum of 1983 (NAD83).
UTM Easting NAD27 (meters)	–	Universal Transverse Mercator coordinates, Easting, zone 11, in meters; North American Datum of 1927 (NAD27).
UTM Northing NAD27 (meters)	–	Universal Transverse Mercator coordinates, Northing, zone 11, in meters; North American Datum of 1927 (NAD27).
Remarks	–	Pertinent remarks pertaining to the lithologic description.
Date record last updated	–	Date of data entry (compiled into electronic format) is listed if a row of record has not been modified. The date of last (most recent) update is listed if a row of record has been modified. This date does not indicate which columns of data have been modified; only that records have been updated within a particular row. Dates are listed as yyyymmdd (4-digit year; 2-digit month; 2-digit day).
URL address	–	Link to online website and database.